

REMARKS

Claims 24-52 are pending. Claims 24, 25, 27, 32, 33, 38, 39, 41, 46, 47, and 52 have been amended. Claims 24-52 remain in the application.

An Information Disclosure Statement (IDS) is being submitted herewith.

- 5 Acknowledgement of the IDS and entry of the cited art references on the record are requested.

Objection of Specification

- The specification stands objected as failing to provide proper antecedent basis for Claims 25 and 39. Claims 25 and 39 have been amended. No new
10 matter has been entered. Withdrawal of the objection is requested.

Rejections under 35 U.S.C. § 112, first paragraph

- Claims 24-52 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. An analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure,
15 when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. MPEP 2164.01. Applicant traverses the rejection.

- Independent Claims 24, 38, and 52 have been amended to further clarify the subject matter. No new matter has been entered. Support for the amendments
20 can be found in the specification, for example, on page 1, lines 20-30; page 2, lines 2-5 and lines 17-20; page 3, lines 4-10; page 4, lines 30-31; and page 16, lines 20-23.

- The specification provides sufficient enabling disclosure for the claims. The specification discloses collecting intracardiac impedance measures by an implantable medical device (page 18, lines 14-20). The impedance measures are correlated to cardiac pressure measures (page 3, lines 3-4; page 4, lines 30-31; page 16, lines 15-28; and page 20, lines 14-16). Exemplary ways correlation of impedance measures to cardiac pressure measures are discussed in the references incorporated in the Background section of the application on page 3, lines 4-6 and
30 page 14, lines 21-24. MPEP 2164.01.

In particular, the McKay et al. reference provides “comparing impedance recordings with simultaneously measured stroke volumes determined by thermodilution” (p. 703). Stroke volume was measured by thermodilution and impedance at two different steady states (p. 704). The changes in stroke volume
5 between the two steady states, as determined by impedance and thermodilution, are then correlated (p. 704; FIGURE 4). Impedance measures can then be used to “track beat-to-beat changes in both left and right ventricular stroke volume,” (p. 707, FIGURES 5A-B).

Further, the Wortel et al. reference examines the relationship of right
10 ventricle (RV) impedance measurements to right ventricle stroke volume (SV) and whether the relationship would mimic the relationship between left ventricle impedance measurements and left ventricle stroke volume (p. 1336). Impedance signals and ECG measurements were simultaneously recorded for patients at rest and during performance of a Valsalva maneuver (p. 1337). Amplitude of the
15 impedance signal was measured by a ruler (p. 1339). The amplitude “of the impedance signal was smaller at the end of expiration and onset of inspiration than at the end of inspiration and onset of expiration,” which supports “the assumption that changes of RV impedance represent changes in RV SV” (p. 1340, 1341).

Both reference were previously submitted as part of an Information
20 Disclosure Statement filed on July 20, 2004. For your convenience copies of the references, with the pertinent parts highlighted, are attached to this Response to Office action as Attachments 1 and 2, respectively.

Accordingly, a reasonable basis to question the enablement provided for the claimed invention has not been shown. Claims 25-37 are dependent on Claim
25 24 and are patentable for the above-stated reasons, and as further distinguished by the limitations therein. Claims 39-51 are dependent on Claim 38 and are patentable for the above-stated reasons, and as further distinguished by the limitations therein. As the specification provides a teaching sufficient so as to enable one skilled in the art to which the invention pertains, or with which the
30 invention is most nearly connected to make or use the invention, withdrawal of the rejection is requested.

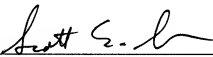
Rejections under 35 U.S.C. § 112, second paragraph

Claims 25 and 39 stand rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. Claims 25 and 39 have been amended and are now definite. No new matter has been entered. Withdrawal of the rejection is requested.

Further examination of the application and entry of the claim amendments are respectfully requested. Claims 24-52 are believed to be in a condition for allowance and a Notice of Allowance is earnestly solicited. Please contact the undersigned at (206) 381-3900 regarding any questions or concerns associated with the present matter.

Respectfully submitted,

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